Nazdar NSC UV Air Texture Clear Screen Inks

UV Air Texture Screen Inks are designed to give a decorative, first surface texture effect on polycarbonate and some pre-treated polyester films used for membrane overlay applications. Textures are available from very fine to very coarse. Most of the UV Air Texture screen inks may be inter-mixed with each other to achieve a custom texture. A nitrogen atmosphere curing unit is not necessary for Nazdar UV Air Texture Screen Inks.

Substrates

Polycarbonate (PC)

Substrate Material(s) listed below may be Limited in Adhesion *(testing highly recommended for each print run)*
Top coated / Print treated polyester (PET)

Notes & Cautions Pre-test ink adhesion on hard coated films

Substrate recommendations are based on commonly available materials intended for the ink's specific market when the inks are processed according to this technical data. While technical information and advice on the use of this product is provided in good faith, the User bears sole responsibility for selecting the appropriate product for their end-use requirements. Reference the 'Quality Statement' at the end of this document.

Mesh

Mesh counts must be selected for the coarsest texture used when inter-mixing products. Coarser, more open mesh counts than recommended and/or twill weave result in heavier ink deposit requiring additional cure output. Finer mesh counts can result in filtering of the texture agent and can result in the ink increasing in viscosity over longer print runs.

NSC40 UV Air Texture Clear Finer	156-230 tpi (61-90 tpcm)
NSC41 UV Air Texture Clear	156-255 tpi (61-100 tpcm)
NSC47 UV Air Texture Very Fine	195 -355 tpi (77-140 tpcm)
NSC48 UV Air Texture Medium	195 -305 tpi (77-120 tpcm)
NSC49 UV Air Texture Coarse	156-255 tpi (61-100 tpcm)
NSC50 UV Air Texture Very Coarse	156-230 tpi (61-90 tpcm)
NSC51 UV Air Texture Clear	110-420 tpi (43-165 tpcm)

Varying the mesh count will vary the texture's coarseness; the lower the mesh count, the coarser the texture.

Stencil

Use direct emulsions and capillary films which are solvent resistant and UV compatible.

Squeegee

70-90 durometer polyurethane squeegee.

Coverage

Depending upon ink deposit, the estimated coverage per gallon: 1,500 – 3,000 square feet 140 - 280 square meters)
Reference www.nazdar.com/en-us/ColorStar for examples of coverage calculations.

Screen Printing

Standard items are formulated to be press ready. Thoroughly mix the ink prior to printing. Improper mixing can lead to inconsistent color and ink performance.

Maintain ink temperature at 65°-90°F (18°-32°C) for optimum print and cure performance. Lower temperatures increase the ink viscosity, impairing flow and increasing film thickness. Elevated temperatures lower the ink viscosity, reducing print definition and film thickness.

Pretest to determine optimum printing parameters for a particular set of ink, substrate, screen, press, and curing variables/conditions.

The ink can be affected by stray UV light. Be aware of skylights, windows and overhead lights curing the ink in the screen; light filters are recommended. Leaving a container uncovered may result in the ink's surface forming a "skin", caused by reaction with ambient lighting. Keep containers covered.

Nazdar does not recommend inter-mixing this ink series with other inks or series.

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Nazdar recommends only inter-mixing the following items together: NSC40, NSC41, NSC47, NSC48, NSC49, and NSC50; they should not be inter-mixed with any other inks.

Cure Parameters

These guidelines are intended only as a starting point for determining cure parameters, which must be determined under actual production conditions. “Undercuring” the ink may result in poor adhesion, lower block resistance, reduced durability, and higher residual odor. “Overcuring” the ink may reduce the flexibility of the printed part and adhesion of subsequent ink layers.

Mercury Vapor UV Curing: Standard ink cures when exposed to a single medium pressure mercury vapor lamp emitting output millijoules (mJ) and milliwatts (mW) of:

200+ mJ/cm² @ 800+ mW/cm²

To increase mJ levels, slow down the belt speed or scan speed. To increase mW levels, increase the wattage setting of the UV reactor. To optimize mJ and mW output, maintain the bulb and reflector, and ensure proper focus to the substrate.
These guidelines are representative of measurements taken using an EIT® UVICURE® Plus radiometer measuring the UVA bandwidth (320-390 nm). To obtain accurate mW readings with the UVICURE® Plus, reduce the belt speed to less than 40 ft/min.

Adhesion Testing

When recommended UV energy output levels are achieved, checking the degree of cure on a **cooled down** print is imperative:
- Touch of ink surface – the ink surface should be smooth.
- Thumb twist – the ink surface should not mar or smudge.
- Scratch surface – the ink surface should resist scratching.
- Cross hatch tape test – per the ASTM D-3359 method, use a cross hatch tool or a sharp knife to cut through ink film only; then apply 3M #600 clear tape on cut area, rub down, and rip off at a 180 degree angle. Ink should only come off in actual cut areas.

Full adhesion characteristics at proper cure levels are demonstrated within: 24 hours

Cleanup

For screen cleaning, similar products to those listed below may be used.

Screen Wash (Prior to Reclaim): Use IMS201 Premium Graphic Screen Wash or IMS203 Economy Graphic Screen Wash
Press Wash (On Press): Use IMS301 Premium Graphic Press Wash

Ink Modifications

Additives

The market specific performance properties of this ink series / ink item should be acceptable for most applications without the need for additives. When required, any additives should be thoroughly mixed before each use. Prior to production, test any additive adjustment to the ink. Inks containing additives should not be mixed with other inks.

Example for additives: Ink at 100g with 8% of an additive is calculated as: 100g ink + 8g additive = 108g total

Reducer / Thinner

Use the following item(s) to reduce the viscosity of these inks. Over reduction can reduce print definition, film thickness and adversely affect cure.
RE301 UV Reducer: add up to 10%

There is no reducer recommended for the NSC51.

General Information

Handling

Refer to the SDS for recommendations on handling.
Wear gloves and barrier cream to prevent direct skin contact. Safety glasses are suggested in areas where ink may be splashed. If product does come in contact with skin, wipe ink off with a clean, dry cloth (do not use solvent or reducer). Wash the affected area with soap and water.

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This ink series is a one-part, 100% solids UV-curable screen printing ink and does not contain N-vinyl-2-pyrrolidone (trade name V-Pyrol®).
For assistance on a wide range of important regulatory issues, consult the following Regulatory Compliance Department link at http://www.nazdar.com or contact Nazdar Ink Technologies - World Headquarters (see contact listing at the end of this document).

Storage / Shelf Life
Store closed containers at temperatures between 65°-78°F (18°-25°C). Storing products outside of these recommendations may shorten their shelf life.

Standard items supplied in 1-gallon (4-5 kg) containers or smaller. Useable for a period of at least **24 months** from the date of manufacture.

Standard Color Range
Based on information from our raw material suppliers, these ink products are formulated to contain less than 0.06% lead. If exact heavy metal content is required, independent lab analysis is recommended.

Packaging / Availability
Contact your Nazdar distributor for product availability and offering.

Item Type	Item Number	Item (or Color) Description
UV Air Texture Clears	NSC40	UV Air Texture Clear Fine
UV Air Texture Clears	NSC41	UV Air Texture Clear
UV Air Texture Clears	NSC47	UV Air Texture Clear Very Fine
UV Air Texture Clears	NSC48	UV Air Texture Clear Medium
UV Air Texture Clears	NSC49	UV Air Texture Clear Coarse
UV Air Texture Clears	NSC50	UV Air Texture Clear Very Coarse
UV Air Texture Clears	NSC51	UV Air Texture Clear
Additives	RE301	UV Thinner
Cleaners	IMS201	Premium Graphic Screen Wash
Cleaners	IMS203	Economy Graphic Screen Wash
Cleaners	IMS301	Premium Graphic Press Wash

Nazdar Quality Statement
Nazdar® stands behind the quality of this product. Nazdar® cannot, however, guarantee the finished results because Nazdar® exercises no control over individual operating conditions and production procedures. While technical information and advice on the use of this product is provided in good faith, the User bears sole responsibility for selecting the appropriate product for their end-use requirements. Users are also responsible for testing to determine that our product will perform as expected during the printed item's entire life-cycle from printing, post-print processing, and shipment to end-use. This product has been specially formulated for screen printing, and it has not been tested for application by any other method. Any liability associated with the use of this product is limited to the value of the product purchased from Nazdar®.

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